## AMENDMENTS TO THE CLAIMS

1. **(CURRENTLY AMENDED)** An electrode catheter for defibrillation or mapping or ablation of cardiac tissue, having a terminal at a proximal end of the electrode catheter and one or more sensing or treatment electrodes or both on or in proximity to the distal end of the electrode catheter, and having at least one electrical conductor, via which the particular sensing or treatment electrode is electrically connected to the terminal,

~~**characterized in that**~~

**wherein** the electrical conductor is made of carbon ~~**and**~~ **whereby** the electrode catheter is constructed as capable of use in the course of magnetic resonance tomography and ~~**is implemented**~~ **further wherein the electrical conductor is adapted** for connection to an electrophysiology therapy device and **has:**

**a.** at least one defibrillation electrode or

**b.** at least one sensing electrode for recording and analyzing cardiac tissue potentials or

**c.** at least one treatment electrode for delivering high-frequency currents for tissue ~~**erosion (ablation)**~~ **ablation**.

2. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 1, ~~**characterized in that**~~ **wherein** the electrical conductor is made of carbon fibers~~**, which comprise multiple filaments**~~.

3. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 2, ~~**characterized in that**~~ **wherein** the electrical conductor is enclosed by an insulating sleeve made of a flexible plastic which is compatible with magnetic resonance.

4. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 3, ~~**characterized in that**~~ **wherein** the insulating sleeve contains an x-ray contrast agent.

5. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 4, ~~**characterized in that**~~ **wherein** the x-ray contrast agent contains barium sulfate or metal particles.

6. **(CURRENTLY AMENDED)** The electrode catheter according to ~~**one of Claims 3 through 5, characterized in that**~~ **Claim 3, wherein** the insulating sleeve is largely made of silicone.

7. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 2, ~~**characterized in that**~~ **wherein** the electrical conductor has a cross-section between 0.5 mm and 1.5 mm and a length between 40 and 120 cm.

8. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 2, ~~**characterized in that the filaments**~~ **wherein the fibers** have a diameter between 5µm and 7µm.

9. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 1, ~~**characterized in that**~~ **wherein** the electrode catheter is ~~**implemented as a defibrillation electrode for connection to an implantable defibrillator**~~ **connected to an implantable defibrillator for implementation as a defibrillation electrode**.

10. **(CURRENTLY AMENDED)** The electrode catheter according to Claim 1, ~~**characterized in that**~~ **wherein** the electrode catheter is implemented as an electrophysiology catheter for mapping or ablation of cardiac tissue or both.

11. **(CURRENTLY AMENDED)** A method for electrotherapy of a heart, ~~**characterized in that**~~ **wherein** the electrotherapy is performed during magnetic resonance tomography using an electrode catheter which is constructed as compatible with magnetic resonance using an electrical conductor made of carbon.

12. **(CURRENTLY AMENDED)** The method for electrotherapy of a heart according to Claim 11, ~~**characterized in that**~~ **wherein** the electrotherapy comprises tissue erosion of the cardiac tissue by delivering high-frequency currents to the cardiac tissue.

13. **(CURRENTLY AMENDED)** The method for electrotherapy of a heart according to Claim 11, ~~**characterized in that**~~ **wherein** the electrotherapy comprises electrostimulation of cardiac tissue.

14. **(CURRENTLY AMENDED)** A method for detecting electrical potentials of cardiac tissue, ~~**characterized in that**~~ **wherein** the detection is performed during magnetic resonance tomography using an electrode catheter which is constructed as compatible with magnetic resonance using an electrical conductor made of carbon.

15. **(NEW)** An electrode catheter for defibrillation or mapping or ablation of cardiac tissue, the electrical catheter extending between an at least substantially rigid proximal handle section and a flexible distal insertion section, comprising:
    a.. an electrical terminal connected to the proximal handle section;
    b. two or more spaced external electrodes on the distal insertion section; and
    c. electrically conductive carbon fibers extending between each external electrode and the electrical terminal.

16. **(NEW)** The electrode catheter of claim 15 wherein:
    a. a first one of the external electrodes is situated at a distal tip of the flexible distal insertion section, and
    a. a second one of the external electrodes is spaced from the distal tip of the flexible distal insertion section.

17. **(NEW)** The electrode catheter of claim 15 wherein the electrically conductive carbon fibers extending from a first one of the external electrodes collectively have a greater diameter than the collected electrically conductive carbon fibers extending from a second one of the external electrodes.

18. **(NEW)** The electrode catheter of claim 15 further comprising

a. a temperature sensor at the distal insertion section, and

c. at least one sensor lead extending from the temperature sensor to the proximal handle section

19. **(NEW)** The electrode catheter of claim 15 wherein:

a. a metallic conductor is in electrical communication with the electrical terminal; and

b. an end of the metallic conductor extends adjacent ends of the electrically conductive carbon fibers extending from a first one of the external electrodes, with a sleeve surrounding and electrically engaging the end of the metallic conductor and the adjacent ends of the electrically conductive carbon fibers..

20. **(NEW)** The electrode catheter of claim 15 wherein the flexible distal insertion section has an x-ray contrast agent therein, whereby the flexible distal insertion section is visible by x-ray imaging.